

**WHAT IS CLAIMED IS:**

1. An intelligent network for use with an ATM network to set up an ATM switched virtual circuit to provide VToA services and private address translation, the intelligent network comprising:

5 a multi-service control point operable to receive an input extracted from an input ATM setup message that includes a called party phone number value and a VToA designator, analyze the input to determine if the VToA designator is present, designate an ATM address of a called party CPE to be stored in a first instance of a called party subaddress parameter of an output ATM setup message; determine if private address translation is needed; designate an ATM address of an egress ATM edge switch to be stored in a called party number parameter of the output ATM setup message; and generate an output in response for use in generating the output ATM setup message;

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15 an ATM signaling intercept processor operable to intercept the input ATM setup message from an ingress ATM edge switch of the ATM network, extract the input from the input ATM setup message, communicate the input to the multi-service control point, receive the output generated by the multi-service control point, generate the output ATM setup message using the output that includes the ATM address of the egress ATM edge switch stored in the called party number parameter, the ATM address of the called party CPE stored in the first instance of the called party subaddress parameter, and the called party phone number value stored in a second instance of the called party subaddress, and communicate the output ATM

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setup message to the ingress ATM edge switch of the ATM network;

5 a second multi-service control point operable to receive an egress input extracted from the output ATM setup message that includes the called party phone number value and the ATM address of the called party CPE, designate the ATM address of the called party CPE that was stored in the first instance of the called party subaddress parameter of the output ATM setup switch to be stored in the called party number parameter of a destination ATM setup message, and generate an egress output in response,

10 15 a second ATM signaling intercept processor operable to intercept the output ATM setup message from an egress ATM edge switch of the ATM network, extract the egress input from the output ATM setup message, communicate the egress input to the second multi-service control point, receive the egress output generated by the multi-service control point, generate the destination ATM setup message using the egress output that includes the ATM address of the called party CPE stored in the called party parameter, and the called party phone number value stored in the called party subaddress parameter, and communicate the destination ATM setup message to the egress ATM edge 20 25 switch of the ATM network; and

25 a service administration operable to provision the multi-service control point, the ATM signaling intercept processor, the second multi-service control point and the second ATM signaling intercept processor.

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2. The intelligent network of Claim 1, wherein the second multi-service control point and the multi-service control point are implement as one multi-service control point.

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3. The intelligent network of Claim 2, wherein the multi-service control point includes various applications operable to provide VToA services through analyzing the input to generate the output.

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4. The intelligent network of Claim 3, wherein the multi-service control point is operable to process the input to provide desired services before designating the ATM address of an egress ATM edge switch to be stored in the called party number parameter of the output ATM setup message.

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5. The intelligent network of Claim 4, wherein the second multi-service control point is operable to process the egress input to provide desired services after designating the ATM address of the called party CPE that was stored in the first instance of the called party subaddress parameter of the output ATM setup switch to be stored in the called party number parameter of the destination ATM setup message.

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6. The intelligent network of Claim 1, wherein the multi-service control point determines if private address translation is needed by identifying a port of the ingress ATM edge switch that received the input ATM setup message.

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7. A method for providing VToA and private address translation using an intelligent network and a switched virtual circuit over an ATM network, the method comprising:

5 receiving a request at a calling party CPE to make a VToA call that includes a called party phone number value;

10 generating an input ATM setup message at the calling party CPE that includes a VToA designator stored in a first parameter of the input ATM setup message, and the called party phone number value stored in a second parameter of the input ATM setup message;

15 receiving the input ATM setup message at a device side of an ingress ATM edge switch of the ATM network;

20 intercepting the input ATM setup message from the device side of the ingress ATM edge switch of the ATM network;

25 extracting information from the input ATM setup message that includes the VToA designator and the called party phone number value;

analyzing the information to determine if the VToA designator is present;

25 designating an ATM address of a called party CPE to be stored in the first parameter of an output ATM setup message;

determining if private address translation is needed;

30 designating the ATM address of the called party CPE to be stored in a first instance of the second parameter of the output ATM setup message;

designating an ATM address of an egress ATM edge switch to be stored in the first parameter of the output ATM setup message;

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generating an output ATM setup message that includes the ATM address of the egress ATM edge switch stored in the first parameter, the ATM address of the called party CPE stored in the first instance of the second parameter, and the called party phone number value stored in a second instance of the second parameter;

communicating the output ATM setup message to a network side of the ingress ATM edge switch of the ATM network;

receiving the output ATM setup message at a network side of the egress ATM edge switch;

intercepting the output ATM setup message from the network side of the egress ATM edge switch of the ATM network;

extracting egress information from the output ATM setup message that includes the ATM address of the called party CPE;

designating the ATM address of the called party CPE that was stored in the first instance of the second parameter of the output ATM setup message to be stored in the first parameter of a destination ATM setup message;

generating a destination ATM setup message that includes the ATM address of the called party CPE stored in the first parameter and the called party phone number value stored in the second parameter;

communicating the destination ATM setup message to a device side of the egress ATM edge switch; and

communicating the destination ATM setup message to the called party CPE.

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8. The method of Claim 7, wherein the first parameter of the output ATM setup message is the called party number parameter and the second parameter of the output ATM setup message is the called party subaddress parameter.

9. The method of Claim 8, wherein the first parameter of the destination ATM setup message is the called party number.

10. The method of Claim 7, further comprising: processing the information to provide desired services before designating the ATM address of the called party CPE to be stored in a second parameter of the output ATM setup message.

11. The method of Claim 10, further comprising: processing the information to provide desired services before designating the ATM address of the called party CPE that was stored in the first instance of the second parameter of the output ATM setup message to be stored in the first parameter of a destination ATM setup message.

25 12. The method of Claim 7, wherein the ATM address of the called party CPE is determined using the called party phone number value and a database.

30 13. The method of Claim 7, wherein private address translation is performed on ATM addresses of the calling party.

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14. The method of Claim 7, wherein intercepting the input ATM setup message at the device side of the ingress ATM edge switch includes determining a port of the ingress ATM edge switch that received the input ATM setup message, and wherein the port is used in determining if private address translation is needed.

15. The method of Claim 7, wherein generating an input ATM setup message at the calling party CPE includes storing the VToA designator in the called party address parameter and storing the called party phone number value in the called party subaddress parameter.

16. A method for providing an ATM data call with private address translation using an intelligent network and a switched virtual circuit over an ATM network, the method comprising:

5 receiving a request at a calling party CPE to make an ATM data call that includes an ATM address of a called party;

10 generating an input ATM setup message at the calling party CPE that includes the ATM address of the called party stored in a first parameter of the input ATM setup message;

15 receiving the input ATM setup message at a device side of an ingress ATM edge switch of the ATM network;

20 intercepting the input ATM setup message from the device side of the ingress ATM edge switch of the ATM network;

25 extracting information from the input ATM setup message that includes the ATM address of the called party;

30 determining if private address translation is needed;

designating the ATM address of the called party to be stored in a second parameter of the output ATM setup message;

designating an ATM address of an egress ATM edge switch to be stored in the first parameter of the output ATM setup message;

35 generating an output ATM setup message that includes the ATM address of the egress ATM edge switch stored in the first parameter, and the ATM address of the called party stored in the second parameter;

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communicating the output ATM setup message to a network side of the ingress ATM edge switch of the ATM network;

5 receiving the output ATM setup message at a network side of the egress ATM edge switch;

intercepting the output ATM setup message from the network side of the egress ATM edge switch of the ATM network;

10 extracting egress information from the output ATM setup message that includes the ATM address of the called party;

15 designating the ATM address of the called party that was stored in the second parameter of the output ATM setup message to be stored in the first parameter of a destination ATM setup message;

generating a destination ATM setup message that includes the ATM address of the called party stored in the first parameter;

20 communicating the destination ATM setup message to a device side of the egress ATM edge switch; and

communicating the destination ATM setup message to the called party CPE.

25 17. The method of Claim 16, wherein the first parameter of the output ATM setup message is the called party number parameter and the second parameter of the output ATM setup message is the called party subaddress parameter.

30 18. The method of Claim 17, wherein the first parameter of the destination ATM setup message is the called party number.

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19. The method of Claim 16, further comprising:  
processing the information to provide desired  
services before designating the ATM address of the called  
party to be stored in a second parameter of the output  
5 ATM setup message.

10 20. The method of Claim 16, wherein private address  
translation is performed on ATM addresses of the calling  
party.

15 21. The method of Claim 16, wherein intercepting  
the input ATM setup message at the device side of the  
ingress ATM edge switch includes determining a port of  
the ingress ATM edge switch that received the input ATM  
setup message, and wherein the port is used in  
determining if private address translation is needed.

20 22. The method of Claim 16, wherein generating an  
input ATM setup message at the calling party CPE includes  
storing the ATM address of the called party value in the  
called party number parameter.